

Applicant : Zhimin Liu
Serial No. : 09/705,166
Filed : November 1, 2000
Page : 6

Attorney's Docket No.: 13854-024001

REMARKS

Claims 1, 9, and 16 have been amended. Claims 1-10 and 12-20 are now pending. Applicant respectfully requests reconsideration in view of the foregoing amendment and these remarks.

Claims 16-20 were objected to because of informalities. The Examiner requested claims 16-20 be renumbered as claims 17-21. Applicant called the Examiner on March 4, 2003. The Examiner instructed Applicant not to renumber claims 16-20. Applicant has followed the Examiner's instruction.

Claims 9 and 10 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 9 and 10 have been amended and are in allowable form.

Claims 1-8 and 12-20 were rejected as obvious over U.S. Patent No. 5,975,697 ("Podoleanu") in view of U.S. Patent No. 6,370,286 ("Krol"). Applicant respectfully traverses the rejection.

Claim 1 recites phase delay difference generating means that is optically coupled between a first and a second collimating lens for generating a substantially periodic interference pattern when the collimated parallel beams are focused using said second collimating lens. Krol shows in FIG. 1 that polarized light beams 23' and 25' are combined by a polarizing beam splitter 19 for generating interference patterns. Krol shows in FIG. 2 that polarized light beams 23' and 25' are split by a polarizing beam displacer 39 and recombined by another polarizing beam displacer 45 for generating interference patterns. Krol also shows in FIG. 2 a half-wave plate 43 for reducing PMD. Krol fails to show generating interference patterns including focusing parallel beams using collimating lenses.

Podoleanu and Krol, either alone or in combination, fail to show a phase delay difference generating means that is optically coupled between a first and a second collimating lens for generating a substantially periodic interference pattern when focusing said collimated parallel beams using said second collimating lens. Therefore, claim 1, and claims 2-8 and 12-15, which depend from claim 1 are allowable.

Applicant : Zhimin Liu
(Serial No. : 09/705,166
Filed : November 1, 2000
Page : 7

Attorney's Docket No.: 13854-024001

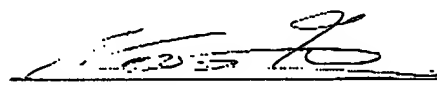
Claim 16 is directed to a method for configuring an optical interleaver and includes positioning a phase difference generating means for generating a phase difference between different portions of optical beams and for generating an interference pattern that is substantially periodic. The positioning step includes focusing said collimated parallel beams using a second collimating lens to generate the substantially periodic interference pattern. This feature is not shown in Podoleanu and Krol. Therefore, claim 16 and claims 17-20, which depend from claim 16, are allowable.

Attached is a marked-up version of the changes being made by the current amendment.

Applicant asks that all claims be allowed. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 3-17-2003


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Applicant : Zhimin Liu
Serial No. : 09/705,166
Filed : November 1, 2000
Page : 8

Attorney's Docket No.: 13854-024001

Version with markings to show changes made

In the Claims:

Claims 1, 9, and 16 have been amended as follows:

1. (Twice Amended) An optical interleaver comprising:
a first collimating lens for collimating an input optical signal into collimated beams and a second collimating lens for focusing said collimated parallel beams into an output optical fiber;
and
a phase delay difference generating means for generating substantially one phase-delay difference between portions of said collimated parallel beams, wherein the phase delay difference generating means is optically coupled between said first and said second collimating lens for generating a substantially periodic interference pattern when said collimated parallel beams are focused by said second collimating lens [is configured to generate an interference pattern that is substantially periodic].
9. (Twice Amended) [The optical interleaver of claim 1 further] An optical interleaver comprising:
a first collimating lens for collimating an input optical signal into collimated beams and a second collimating lens for focusing said collimated parallel beams into an output optical fiber;
a phase delay difference generating means for generating substantially one phase-delay difference between portions of said collimated parallel beams, wherein the phase delay difference generating means is configured to generate an interference pattern that is substantially periodic;
a reflective means for reflecting a portion of said collimated beams as second group of parallel beams transmitted along a second optical path away from said collimated parallel beams;
a third collimating lens for focusing said second group of parallel beams into a second output optical fiber; and

Applicant : Zhimin Liu
Serial No. : 09/705,166
Filed : November 1, 2000
Page : 9

Attorney's Docket No.: 13854-024001

a second phase delay difference generating means for generating a second phase-delay difference between portions of said second group of parallel beams for generating an interference in said third collimating lens for selectively enhancing signal transmission of a second set of wavelengths outputting from said second optical fiber.

16. (Twice Amended) A method for configuring an optical interleaver comprising:

providing a first collimating lens for collimating an input optical signal into collimated beams and a second collimating lens for focusing said collimated parallel beams into an output optical fiber; and

[employing] positioning between the first and second collimating lens a phase difference generating means for generating a phase difference between different portions of optical beams, for generating an interference pattern that is substantially periodic, [and] for selecting a plurality of single-wavelength signals in the optical beams, and where said collimated parallel beams are focused by said second collimating lens.